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Ceramic Traditions in the East Central Jordan Valley during the Late Iron Age IIC (An Insight into the Pottery from Tall Dayr ʻAllā)

Introduction

During the Late Iron Age IIc period (734-539 BC) a new ceramic tradition appeared and blossomed in the central Transjordanian highlands, principally in the region around ʻAmmān which was, during this period, the core region of the kingdom of Ammon. This ʻAmmonite' corpus of ceramic vessels is morphologically and technologically distinct from those of neighbouring areas of Palestine and the Iron Age kingdoms of Moab and Edom. It typically includes fine red-slipped and burnished bowls, jars and tripod cups characteristically decorated with black and white paint, cooking pots and large holemouth bowls (Herr 1999: 224; London 1999: 89-92).

The distribution of ʻAmmonite' ceramic traditions in the Central Jordan Valley, situated between the regions of Transjordan and Palestine (FIG. 1), remains unclear. The sites of Tall as-Saʻīdiyya, Tall al-Mazār and Tall Dayr ʻAllā have all yielded ʻAmmonite' pottery, although its frequency within the respective assemblages is not yet clearly understood.

In 2005, a new study on the Iron Age IIc and Persian period pottery from Tall Dayr ʻAllā was initiated by CAAS, the Centre for Art and Archaeological Studies.[1] CAAS, which started as a collaboration between Leiden University and the Delft University of Technology in the Netherlands, is a centre for the scientific study of material culture in its archaeological and art historical context, with a strong interdisciplinary focus.

The new CAAS study aims to analyse ceramic traditions at Tall Dayr ʻAllā, in order to study continuity and / or change in the production and distribution of pottery from Phase VII to Phase III (see also Groot and Dik 2006: 95-97). This paper discusses the ceramic traditions of Phases VI and V/VI.

Tall Dayr ʻAllā

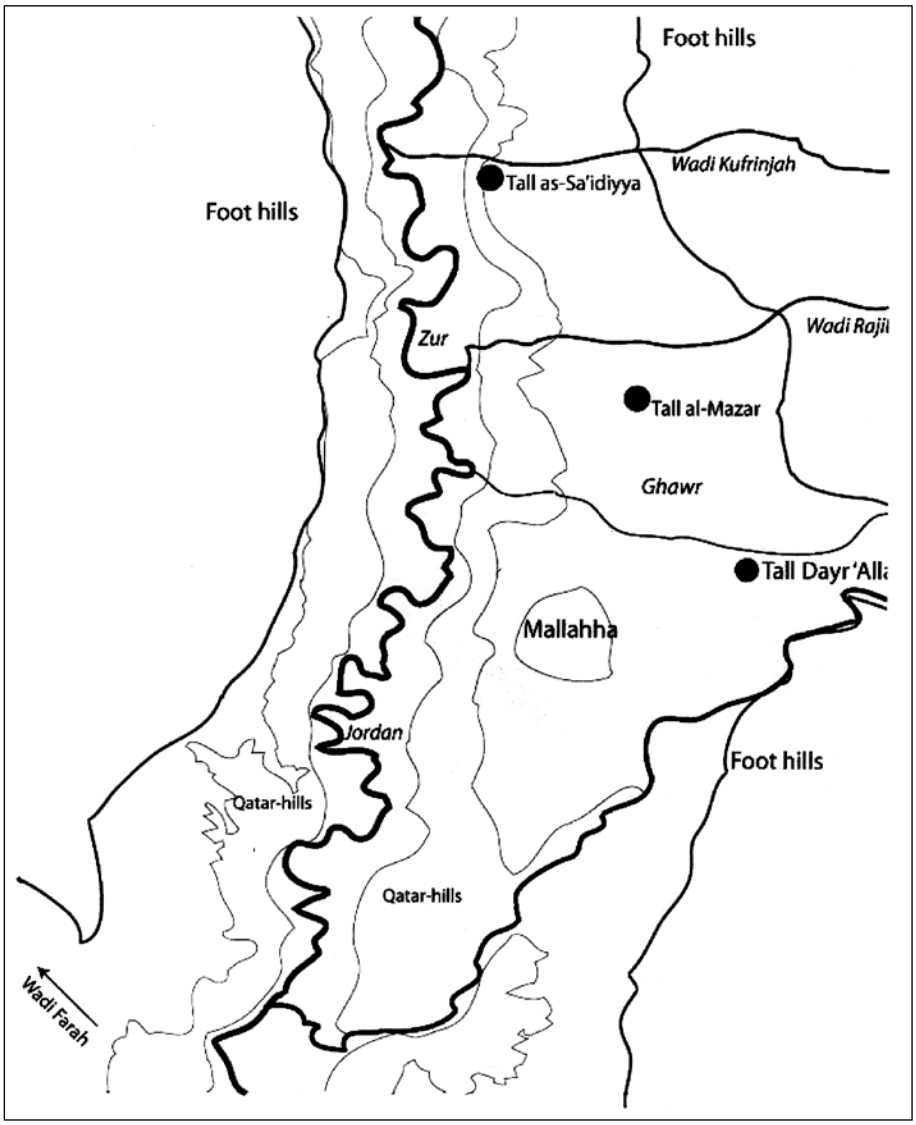
The stratigraphy of Tall Dayr ʻAllā, situated in the Central Jordan Valley, includes layers dating to the Iron Age IIc and Persian periods (734-332BC). These layers were amongst those excavated by the Leiden University expedition between 1959 and 1967 (mainly in 1967), which was led by Henk Franken. A large area was also excavated by the later Joint Expedition of the Department of Antiquities, Yarmouk University and Leiden University. The Joint Expedition was co-directed by Dr. Gerrit van der Kooij and Dr. Moawiyeh Ibrahim. Dr. Zeidan Kafafi succeeded the latter in 1996.

The Late Iron Age IIc phases, VI and V/VI, are restricted to the eastern summit of the tall, where they are exposed in the northern part of this area and also in a trench to the south. The archaeological evidence from both phases has suffered from subsequent digging activities and erosion.

Phase VI, dated to the latter half of the seventh century BC, represents a walled village. This settlement was built in stages on the levelled remains of Phase VII and consisted of farmhouses and large courtyards. Phase VI comprises two sub-phases, both of which were abruptly terminated by fire.

Phase V/VI, dated to the sixth century BC, followed a period of abandonment at the end of Phase VI. It is referred to as Phase V/VI because it was only recognised after the archaeological phasing had been established. It too can be divided into two sub-phases. The first is marked by the accumulation of courtyard deposits and the construction of large, lined pits approximately five meters in di-

[1] This study forms part of doctoral research being undertaken by the author on ceramics from Tall Dayr ʻAllā.



1. Map of the Central Jordan Valley.

ameter. After period of time, these pits went out of use whilst wash and courtyard deposits continued to accumulate. The second sub-phase is likewise marked by the accumulation of courtyard deposits, but is distinguished from its predecessor by the presence of numerous small, typically bell-shaped pits which seem to have been used for fodder. After a period of time these too were abandoned and eventually filled with constructional and other debris washed in from a higher level (van der Kooij 2001: 295-297). These sub-phases, both characterised by pit-digging and the accumulation of courtyard deposits, can most probably be attributed to the presence of a hamlet or house on top of the tall during Phase V/VI, as only a few ephemeral architectural remnants have been exposed (Ibrahim and van der Kooij 1983: 581).

Ceramic Traditions

This study of the Iron Age IIc pottery from Tall Dayr ʻAllā is based on the concept of ceramic traditions as defined by Henk Franken. A ceramic tradition is thus defined on the basis of observed constants in a chronological ceramic sequence, as reconstructed at a single site. These constants, that is to say the methods employed by the potters, include the selection of clays and tempers, the repertoire of shapes produced, the range of applied techniques, the firing method(s) and the distribution of the products themselves. This approach, which is focused on the potter rather than shape alone, aims to take all aspects of pottery production into consideration. Consequently, it is better able to explain aspects of continuity and change within an assemblage (see Franken 2005: 1-17; London 1999: 64-67).

The methodology of the current research is a reflection of the theoretical position outlined above. Three aspects of the ceramic assemblage are taken into consideration: shape, manufacturing techniques and fabric. The analysis of fabric includes both low- and high-tech. components. In the former, i.e. low-tech., samples were broken off a representative number of sherds. These were ground down and then re-fired to 725° degrees Celsius in an oxidising kiln at the ceramic laboratory in the Faculty of Archaeology, University of Leiden. The samples were subsequently studied at 10-50 x magnification. The latter, i.e. high-tech., component utilised X-Ray Fluorescence and INAA (Instrumental Neutron Activation Analysis), and included a study of provenance (Groot and Dik 2006: 95-97).

The Late Iron Age IIc Ceramic Repertoire from Tall Dayr ʻAllā

Phases VI and V/VI have both yielded a ceramic repertoire which can be described as predominantly 'Ammonite' in style, paralleling the Iron Age IIc pottery of Central Transjordanian sites such as ʻAmmān Citadel, Ḥisbān, Jāwā, Rujum al-Ḥinū, Ṣāfūṭ and al-ʻUmayrī (Groot in press). The repertoire of both phases includes the following typical shapes: grinding bowls, step-rim bowls, squat hemispherical bowls, thin carinated bowls, holemouth bowls and decanters (see FIG. 2 for a selection of Phase VI and V/VI shapes).

Analysis of the ceramic repertoire from Tall Dayr ʻAllā has shown that the production and use of pottery at that site did not undergo significant change during Late Iron Age IIc. Despite this general sense of continuity, two minor changes can nevertheless be discerned. First, although black burnished ware comprised ± 5% of the complete rim repertoire during Phase VI, during Phase V/VI its frequency seems to have been markedly reduced (see FIG. 2.4 for a Phase VI example). Second, two types of Palestinian bowl (FIG. 3.3-4) which were common in Phase VI had almost completely disappeared in Phase V/VI.

This study therefore suggests that, notwithstanding some minor changes, ceramic traditions in the Central Jordan Valley were characterised by a high degree of continuity during the period under consideration. This saw the blossoming of Ammon, the decline of Assyrian power and subsequent political upheaval which culminated in the Babylonian conquest (Dion 2003: 505-513). Nevertheless, the continuity observed in ceramic traditions at Tall Dayr ʻAllā indicates that at least part of the population remained in the Central Jordan Valley during this period of potential political unrest.

The Ammonite Tradition

On basis of characteristic shapes, manufacturing techniques and fabrics, the majority of vessels from Phase VI and all of those from Phase V/VI can be assigned to the Ammonite ceramic tradition. At Tall Dayr ʻAllā, the Ammonite tradition can be divided into three sub-traditions which continue all the way through both phases (Groot in press).

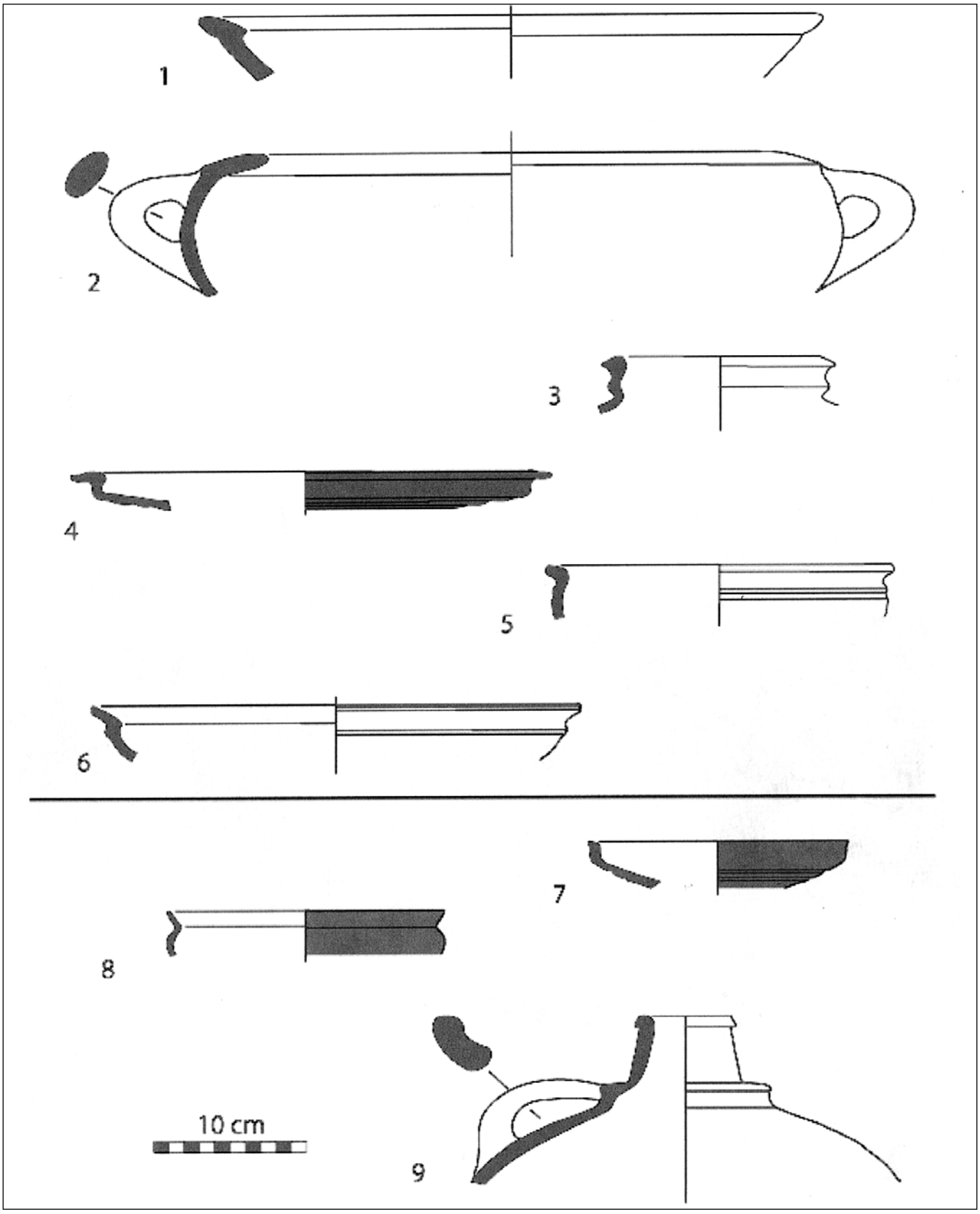
A. *The Local Tradition*

Vessels, in this study, are attributed to the local tradition when clay from the Damya formation was used in the preparation of the fabric. Such fabrics are characterised by the presence of undissolved clay particles, an early stage in the formation of mudstone. The particles themselves are small plates, typically reddish brown in colour (see Franken 1992: 106-108). Examples of Damya clay fabrics from Tall Dayr ʻAllā have been published for the Late Bronze Age (Franken 1992: 106-108) and Iron Age IIb (Vilders 1992: 191-192). This study has identified four (see FIG. 4 for an example) local fabric types (Groot in press).

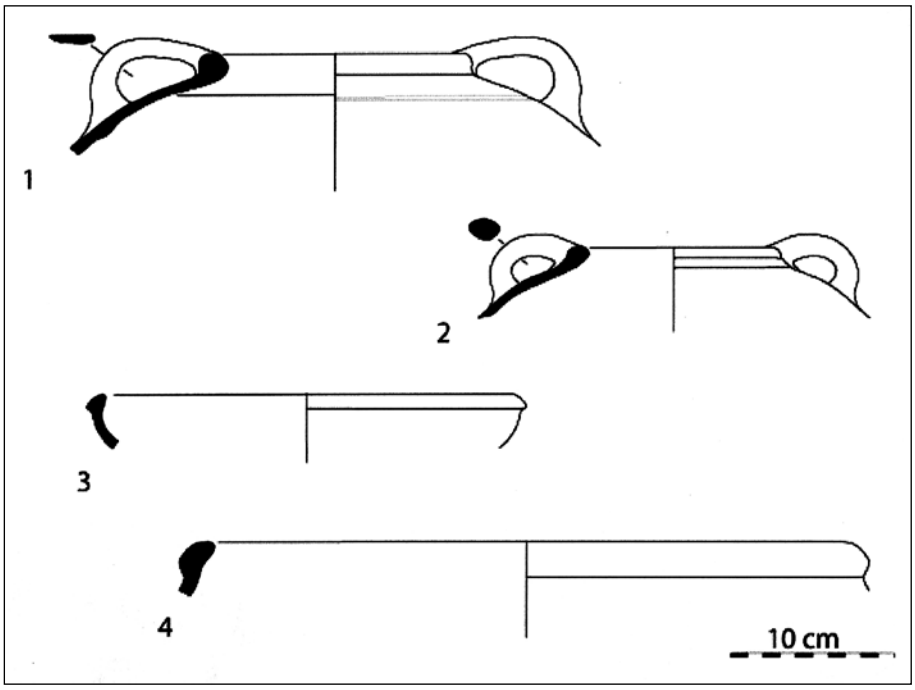
The Damya formation was deposited in Lake Lisan during the final stages of its retreat between 14-13.000 and 10.000BC (Abed and Yaghan 1999: 23-26), in which manifestation it is also referred to as Lake Damya. The formation consists of a sequence of differently coloured clay layers, which are easily accessible owing to the presence of several natural outcrops above the current valley floor. The site of Tall Dayr ʻAllā is situated on one these outcrops (van der Kooij and Ibrahim 1989: 76).

It is clear from the results of the fabric analysis that a wide range of shapes was locally produced (see FIG. 2.1-6). These include Ammonite shapes such as holemouth bowls (FIG. 2.2), squat hemispherical bowls (FIG. 2.5), step-rim bowls (FIG. 2.6), and the distinctive black burnished ware (FIG. 2.4). Furthermore, the collection demonstrates that the so-called 'mansaf bowl', a locally occurring large bowl since Phase F of Iron Age I (Franken 1969: 157-160), was still being produced in the region (FIG. 2.1).

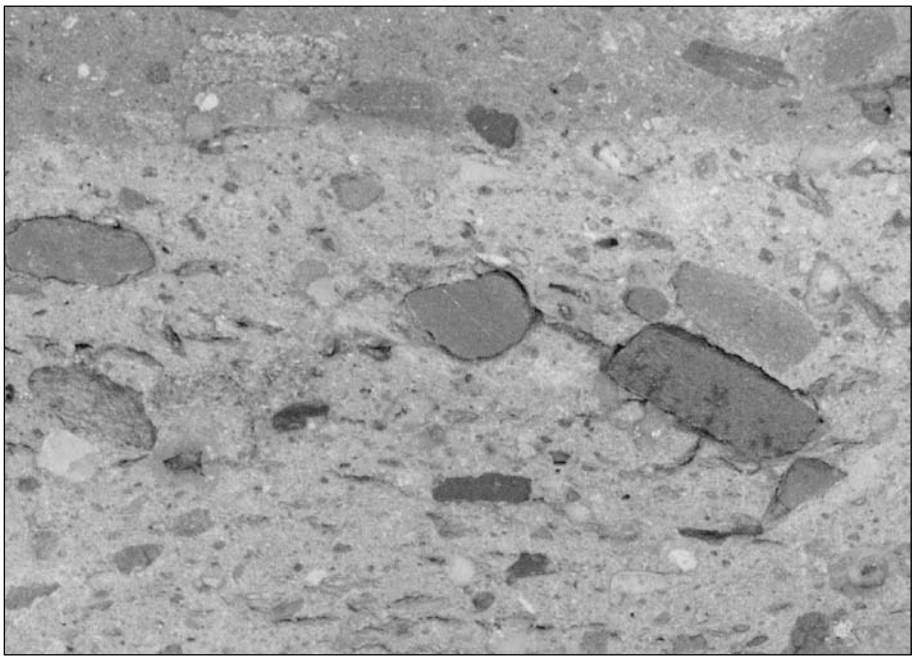
Study of manufacturing techniques has demonstrated that, in addition to the use of moulds, both



2. Selection of locally produced vessels from Phase VI (1-6) and non-local vessels from Phase VI (7, 8) and Phase V/VI (9).



3. Phase VI cooking pots (1, 2) and 'Palestinian' bowls (3, 4).



4. Example of a local Damya clay fabric.

fast and slow wheel[2] techniques were used within the production process. The use of a wheel is further attested to by the discovery of an incomplete wheel head from Phase VI (Ibrahim and van der Kooij 1985: pl. XV.1).

The presence of a wheel head on Tall Dayr 'Allā itself permits the hypothesis that ceramic production took place within a kilometre or so of the site. This hypothesis, together with other results of the study, serves as the basis for a reconstruction of at least three aspects of local production using ethnographic models.

1. *Organisation of production*. Peacock's (1982:

[2] Momentum allows a fast wheel to spin for longer than a slow wheel, which needs continuous pressure to keep it turning. A fast wheel, which rotates at around 60 revolutions per minute, also requires the use of two hands to form a shape (London 1999: 69-70).

6-11, 25-31) ethnographic model describes various modes of ceramic production, each with its own distinctive organisation in which a particular range of techniques are applied to the production of pottery. According to this model, the manufacturing techniques documented at Tall Dayr ʻAllā are indicative of ceramic production in an individual workshop. The use of a slow and, especially, a fast wheel is highly suggestive of this mode of production, in which a male potter with a small team of assistants would most probably have produced the vessels. The different manufacturing techniques required to produce the vessels suggest that some division of labour may have taken place. Wheel throwing is a clear example of specialisation, and construction of *pithoi* may have been another. The construction and finishing of vessel components, for example attaching lugs, could have been the task of assistants (see also London 1999: 71).

Extrapolation from Peacock's model suggests that the potter was probably a sedentary inhabitant of the immediate environs of the tall, with production of pottery as his main source of income. However, as pottery production is almost exclusively seasonal in this mode, he would most probably also have engaged in other activities. In the Central Jordan Valley, pottery production would probably taken place under the mild conditions of winter and spring. This is because temperatures during the summer months would have been too high for production (van der Kooij and Ibrahim 1989: 10). At this time of year the intense heat could have caused vessels, especially those which were wheel-thrown, to crack as a result of excessively rapid drying and shrinkage.

2. *Raw Materials*. The range of actions by which a potter obtains the raw materials required for ceramic production have been described in an ethnographic model by Dean Arnold (Arnold 1999: 363-367). This 'threshold model' is based on the average distances travelled by potters to obtain clay and temper. It states that most of the studied potters lived within seven-kilometres of their clay and temper sources and that, of these, the majority lived within just one kilometre of their sources. By applying this model to Tall Dayr ʻAllā, the following hypothesis can be constructed. The potter could have obtained clay from the clay beds of the nearby Damya formation. The non-organic tempers used in the local fabrics were quartz sand and calcite. These would all have been readily available within the hypothetical maximum distance of seven kilometres from the site. Quartz sand is found in deposits close to the tall (Vilders 1992: 191), whilst calcite is present in the foothills of the Transjordanian highlands to the east. Different clays and tempers could have been obtained from other geological areas lying within seven kilometres of the site, including the course of the River Jordan, also known as the Zur, the foothill margins or the bed of the nearby Wādī az-Zarqāʼ (See FIG. 1).
3. *Location*. Access to water was the factor that most probably determined the location of the workshop at Tall Dayr ʻAllā. The most consistent water sources would have been the Wādī az-Zarqāʼ itself and the associated network of irrigation channels that would have been required for agriculture (van der Kooij 2001: 298, 299). Clay from the Damya formation and temper would have to had been mixed with water to obtain a workable paste. Furthermore, one local fabric type contains fine mudstone particles which are indicative of levigation. This further strengthens the case for a nearby water supply.

It is thus reasonable to hypothesise that the workshop would have been located at the foot of or in the general vicinity of the tall. It should however be noted that, in addition to the possibility of destruction by agricultural activities, potters' workshops may be difficult to locate archaeologically owing to the seasonality of production amongst other factors (London 1999: 69).

B. *Other 'Ammonite' Traditions*

The presence of other Central Transjordanian / 'Ammonite' traditions is attested to by the use of non-local fabrics for 'Ammonite' shapes (see FIG. 2.7-9 for examples). Because several minor fabric groups exist within this category it can be suggested that, in addition to the use of different clays in local production, there may have been exchange with other 'Ammonite' pottery producing regions. Indeed, there would probably have been an intricate and intangible ceramic exchange network, consisting of family and tribal relationships, redistribution and trade.

Owing to the number of individual workshops supplying the market, it is clear that vessels ended up at Tall Dayr ʻAllā which were also produced locally. Examples include holemouth bowls, squat

hemispherical bowls and step-rim bowls. Also, the presence of fine Ammonite red-slipped and / or burnished fine ware (FIG. 2.7-8), including the characteristic carinated bowls, suggests that there may have been one or more workshops which specialised in the production of these wares.

C. *Cooking Pots*

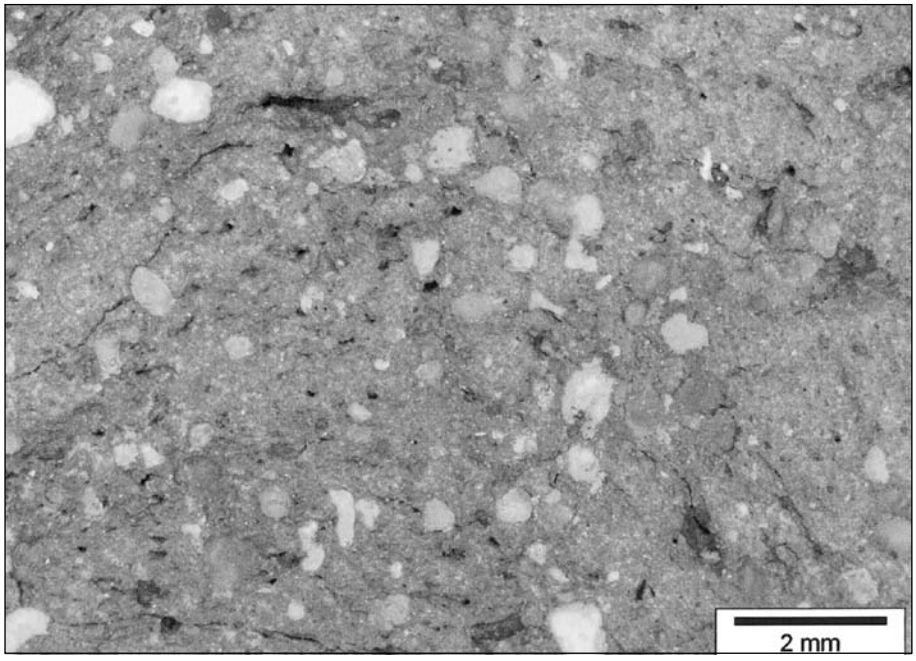
The third sub-tradition, whether local or non-local, is represented by the cooking pots which are almost exclusively of Transjordanian type. This tradition is distinguished by the use of iron-rich clay and an old method of construction in which the lower half of the vessel was formed in a mould, to which coils were subsequently added whilst turning in order to form the upper half (see Franken 1969: 118-120). However, an innovation occurred during the seventh century BC when potters began to experiment with tempers other than calcite. This shift can be seen in the Phase VI and V/VI cooking pots, in which sand was the dominant non-plastic temper, and reflects contemporary developments in Palestine and Central Transjordan (London 1999: 91).

During the course of this shift two types of cooking pot, of broadly similar shape, emerged in the ceramic repertoire. The first was characterised by a thickened, sometimes ridged, vertical rim (FIG. 3.1) and a predominantly quartz sand temper with a small amount of added calcite / lime (FIG. 5). The second was characterised by a groove underneath the rounded rim (FIG. 3.2) and a mixed sand / calcite temper (FIG. 6). The difference in temper points to the existence of two separate traditions which produced broadly similar cooking pots. This is suggestive, first, of local production and, second, of the existence of more than one pottery workshop.

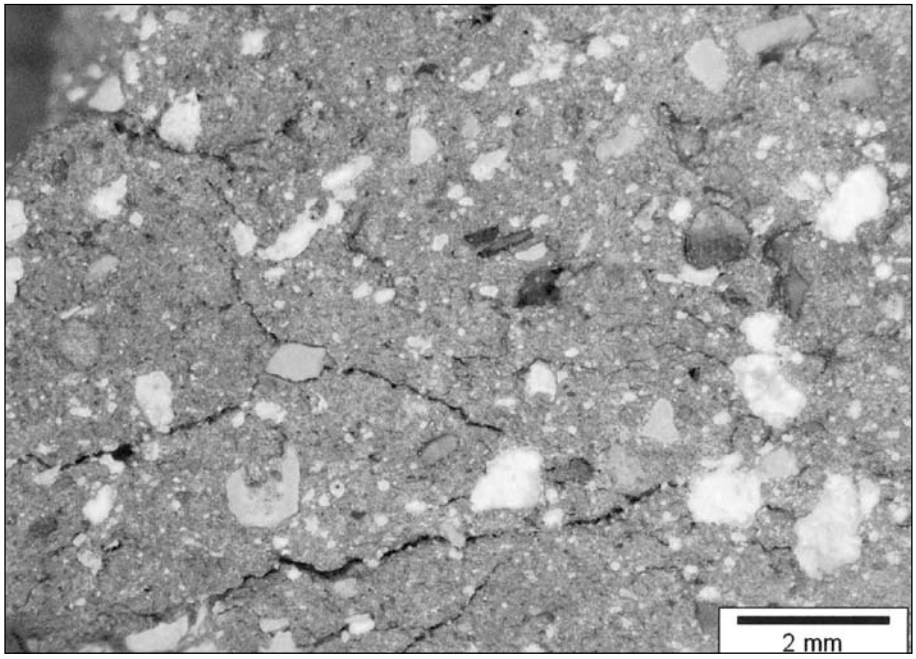
The Palestinian Tradition

The other main ceramic tradition at Tall Dayr ʻAllā can termed ʻPalestinian' on the basis of parallels in shape, finishing and fabric. These parallels are especially pronounced in the case of two types of bowl (FIGS. 3.3-4), referred to in Jerusalem by Franken as Small Bowls, Class 4 and Large Storage Bowls, Class 11 (Franken and Steiner 1991: 103-104, 116-119).

In the case of these bowls, eight different fabrics have been identified (Groot in press). All of these appear to be non-local and all are different to sampled ʻAmmonite' vessels. Additionally, it seems that in Transjordan the distribution of these bowls is restricted to sites in the Jordan Valley, including Tall as-Saʻīdiyya Stratum IV (Pritchard 1985: figs. 15.10 &13). This constitutes good evidence for the existence of trade or exchange networks between the Central Jordan Valley and Palestine. On the basis of the diverse fabric types referred to above, the mechanism by which these bowls ended up at Tall Dayr ʻAllā, was not a matter of straightforward exchange between two locations. These objects were acquired at different



5. Example of cooking pot fabric, Type 1.



6. Example of cooking pot fabric Type 2.

places and / or were brought to Jordan Valley by middlemen or merchants in order to be sold. The use of these bowls as containers seems improbable on account of their impractical shape and size for the transport of goods.

Overview

At Tall Dayr ʻAllā the ceramic repertoire remained largely unchanged during the Late Iron Age IIc. During Phase VI it was dominated by an ʻAmmonite' ceramic tradition which became ubiquitous in Phase V/VI. This tradition appears to have been characterised by workshop production in which a broad range of manufacturing techniques were used. The range of fabrics represented suggests that, in addition to local production, there was a system of exchange between the Central Jordan Valley and other regions in which ʻAmmonite' pottery was produced. Transjordanian cooking pots, occurring in at least two distinct traditions each with its own technical characteristics, form part of this wider ʻAmmonite' tradition. The Palestinian ceramic tradition at Tall Dayr ʻAllā formed part of a complex of trade or exchange representing contact between east and west, at least during Phase VI.

In conclusion, this analytical approach based on ceramic traditions has enabled us to reconstruct a wide range of pottery dynamics, thereby offering a better glimpse into the society of this still enigmatic region of Ammon.

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